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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,157	07/31/2003	Timo J. Salo	5577-259	1907

20792 7590 12/29/2006
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EXAMINER

PANTOLIANO JR, RICHARD

ART UNIT PAPER NUMBER

2194

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/29/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/632,157	Applicant(s) SALO ET AL.	
	Examiner Richard Pantoliano Jr	Art Unit 2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

William Thomson
WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

DETAILED ACTION

Response to Amendment

1. The amendment filed on **17 October 2006** has been received and entered. The amendment amended **Claims 4, 6, 9 and 20**, added **Claim 23**, and amended the Specification. The currently pending claims considered below are **Claims 1-23**.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claims 9 and 15** rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

4. **Claims 9 and 15** are not limited to tangible embodiments. In view of Applicant's disclosure, the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., CD-ROMs and optical storage) and intangible embodiments (e.g., data signals embodied in a carrier wave). As such, the claim is not limited to statutory subject matter and is therefore nonstatutory.

5. To overcome this type of 101 rejection the claims and/or the specification need to be amended to include only the physical computer media and not a transmission media or other intangible or non-functional media.

Claim Rejections - 35 USC § 102

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6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1-4, 9-12, 15-18, and 21-23** are rejected under 35 U.S.C. 102(b) as being anticipated by BEA Systems (*"The WebLogic Server EJB Container and Supported Services"*, http://e-docs.bea.com/wls/docs70/ejb/EJB_environment.html, p1-27, published 25 June 2002).

8. As per **Claim 1**, BEA Systems discloses the invention substantially as claimed including the method of maintaining association integrity of Enterprise JavaBeans (EJB) comprising:

a) obtaining a collection of target EJBs that are associated with a source EJB (*Pg 11, paragraph 7*)(*"loading related beans"*); and

b) registering the collection of target EJBs in a collection registry (*Pg 11, paragraph 7 and Pg 12, paragraph 3*)(*The "cache" serves as a dedicated location for the related beans*).

9. As per **Claim 2**, BEA Systems further discloses the registering comprises storing the EJBs in a collection registry upon passivation of the source EJB (*Pg 4, paragraph 1*) (*The disk stores the information for the EJBs that are removed from memory and placed in a disk cache, which serves as another registry, until reactivation*).

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10. As per **Claim 3**, BEA Systems further discloses:

a) reactivating the source EJB (*Pg 3, Figure 4-2*); and

b) fetching the collection of target EJBs that are associated with the source EJB in response to traversing the relationships between the EJBs (*Pg 11, paragraph 7 – pg 12, paragraph 3*)(*Fetching the source EJB invokes the Relationship Caching behavior of the WebLogic Server and causes all of the passivated EJBs to be loaded with the source EJB. The relationships between the source EJB and the associated EJBs is traversed and stored manually by the database developer in the “weblogic-cmp-rdbms-jar.xml” file*).

11. As per **Claim 4**, BEA Systems further discloses:

a) reactivating the source EJB (*Pg 3, Figure 4-2*);

b) fetching the collection of target EJBs that are associated with the source EJB in response to traversing the relationships between the EJBs (*Pg 11, paragraph 7 – pg 12, paragraph 3*)(*Fetching the source EJB invokes the Relationship Caching behavior of the WebLogic Server and causes all of the passivated EJBs to be loaded with the source EJB. The relationships between the source EJB and the associated EJBs is traversed and stored manually by the database developer in the “weblogic-cmp-rdbms-jar.xml” file*); and

c) materializing the collection if the source EJB is not registered (*Pg 3, paragraphs 3-6 and Pg 11, paragraph 7 – pg 12, paragraph 3*)(*When a client initially connects to the server, the source EJB is created and loaded into memory. Due to the*

relationship caching behavior of the server, the loading of the source EJB causes the associated collection of EJBs to be loaded with said source EJB into memory).

12. As per **Claim 9**, being the system with a computer-usable medium containing instructions for implementing the method of **Claim 1**, is rejected for the same reasons as **Claim 1** above.

13. As per **Claim 10**, being the system with a computer-usable medium containing instructions for implementing the method of **Claim 2**, is rejected for the same reasons as **Claim 2** above.

14. As per **Claim 11**, being the system with a computer-usable medium containing instructions for implementing the method of **Claim 3**, is rejected for the same reasons as **Claim 3** above.

15. As per **Claim 12**, being the system with a computer-usable medium containing instructions for implementing the method of **Claim 4**, is rejected for the same reasons as **Claim 4** above.

16. As per **Claim 16**, being the computer-readable medium containing executable containing instructions for instructions for the method of **Claim 2**, this claim is rejected for the same reasons as **Claim 2** above.

17. As per **Claim 17**, being the computer-readable medium containing executable instructions for the method of **Claim 3**, this claim is rejected for the same reasons as **Claim 3** above.

18. As per **Claim 18**, being the computer-readable medium containing executable instructions for the method of **Claim 4**, this claim is rejected for the same reasons as **Claim 4** above.

19. **Claim 21:** BEA Systems discloses the system for maintaining association integrity of Enterprise JavaBeans (EJBs) comprising:

a) means for obtaining a collection of target EJBs that are associated with a source EJB (*Pg 11, paragraph 7*)(*"loading related beans"*); and

b) means for registering the collection of target EJBs in a collection registry (*Pg 11, paragraph 7 and Pg 12, paragraph 3*)(*The "cache" serves as a dedicated location for the related beans*).

20. **Claim 22:** BEA Systems discloses the system of **Claim 21**, further comprising:

a) means for reactivating the source EJB (*Pg 3, Figure 4-2*);

b) means for fetching the collection of target EJBs that are associated with the source EJB in response to traversing the relationships between the EJBs (*Pg 11, paragraph 7 – pg 12, paragraph 3*)(*Fetching the source EJB invokes the Relationship*

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Caching behavior of the WebLogic Server and causes all of the passivated EJBs to be loaded with the source EJB. The relationships between the source EJB and the associated EJBs is traversed and stored manually by the database developer in the "weblogic-cmp-rdbms-jar.xml" file); and

c) means for materializing the collection if the source EJB is not registered (Pg 3, paragraphs 3-6 and Pg 11, paragraph 7 – pg 12, paragraph 3)(When a client initially connects to the server, the source EJB is created and loaded into memory. Due to the relationship caching behavior of the server, the loading of the source EJB causes the associated collection of EJBs to be loaded with said source EJB into memory).

21. As per **Claim 23**, this claim is rejected for the same reasons as **Claim 9** above.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. **Claims 5-8, 14,15, 19, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over BEA Systems ("*The WebLogic Server EJB Container and Supported Services*", http://e-docs.bea.com/wls/docs70/ejb/EJB_environment.html, p1-27, published 25 June 2002) in view of Sun (*Enterprise JavaBeans™ Specification Version 2.0*", Sun Microsystems Inc., 22 August 2001).

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24. **Claim 5:** BEA Systems discloses the method of **Claim 1**, but does not disclose the use of a “link factory” in maintaining the relationships between EJBs in the registry.

25. Sun discloses that, in designing an application using EJBs, the developer is responsible for specifying the relationships between EJBs (Sun, pg 129, paragraph 1) and that said relationships must be maintained using standard application-programming interfaces (Pg 129-130, “The entity bean provider’s programming contract” and pg 134-135, “Semantics of assignment for relationships”). The logic contained within the software module to maintain the relationships and produce that collection of associated EJBs is irrelevant, as long as it provides the basic interfaces required by the EJB specification to communicate with an EJB and produce the specified collection of associated EJBs.

26. Therefore, it would have been obvious to one of ordinary skill in the art to use any means for maintaining the relationships between the EJBs within the system. One would have been motivated by the inherent requirements of the Enterprise JavaBean specification to use any means of maintaining the necessary relationships between the EJBs while using a standard interface to maintain those relationships.

27. **Claim 6:** BEA Systems further discloses the method comprising:

a) wherein relationships between the source EJB and the collection of EJBs is maintained (Pg 11, paragraph 7 – pg 12, paragraph);

b) wherein the registering comprises:

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i) creating a collection registry to store the collection of associated EJBs
(Pg 11, paragraph 7 – pg 12, paragraph 3);

ii) managing the collections using the registry (Pg 11, paragraph 7 – pg 12, paragraph 3);

c) wherein fetching comprises:

i) checking the collection registry to determine if the collection needs to be fetched or materialized (*it is inherent that the WebLogic Server would examine its cache to determine if it needs to return the EJBs from its cache or materialize new versions of those EJBs*);

ii) returning the related collection of EJBs if the collection was found in the registry (Pg 11, paragraph 7 – pg 12, paragraph 3); and

iii) materializing the related collection of associated EJBs if the collection was not found in the registry (Pg 3, paragraphs 3-6 and Pg 11, paragraph 7 – pg 12, paragraph 3)(*When a client initially connects to the server, the source EJB is created and loaded into memory. Due to the relationship caching behavior of the server, the loading of the source EJB causes the associated collection of EJBs to be loaded with said source EJB into memory). Relationship Caching behavior will cause the other beans to be loaded*).

28. BEA Systems does not disclose the use of a “link factory” in all of the steps to analyze the relationships maintained between the EJBs, referencing the “link factory” at each step and producing a collection of associated EJBs based on that link factory.

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29. Sun discloses that, in designing an application using EJBs, the developer is responsible for specifying the relationships between EJBs (Sun, pg 129, paragraph 1) and that said relationships must be maintained using standard application-programming interfaces (Pg 129-130, "The entity bean provider's programming contract" and pg 134-135, "Semantics of assignment for relationships). The logic contained within the software module to maintain the relationships and produce that collection of associated EJBs is irrelevant, as long as it provides the basic interfaces required by the EJB specification to communicate with an EJB and produce the specified collection of associated EJBs.

30. Therefore, it would have been obvious to one of ordinary skill in the art to use any means for maintaining the relationships between the EJBs within the system. One would have been motivated by the inherent requirements of the Enterprise JavaBean specification to use any means of maintaining the necessary relationships between the EJBs while using a standard interface to maintain those relationships.

31. As per **Claim 7**, this claim is rejected for the same reasons as **Claim 6** above.

32. As per **Claim 8**, this claim is rejected for the same reasons as **Claim 6** above.

33. As per **Claim 13**, being the system with a computer-usable medium implementing the method of **Claim 5**, is rejected for the same reasons as **Claim 5** above.

34. As per **Claim 14**, being the system with a computer-usable medium implementing the method of **Claim 6**, is rejected for the same reasons as **Claim 6** above.

35. As per **Claim 19**, being the computer-readable medium containing executable instructions for the method of **Claim 5**, this claim is rejected for the same reasons as **Claim 5** above.

36. As per **Claim 20**, being the computer-readable medium containing executable instructions for the method of **Claim 6**, this claim is rejected for the same reasons as **Claim 6** above.

Response to Arguments

37. Applicant's arguments filed **17 October 2006** have been fully considered but they are not considered persuasive in regard to the 35 U.S.C. 101 rejection of **Claim 15** or the prior art rejections of all claims.

38. As per the 35 U.S.C. 101 rejection of **Claim 15**, Applicant submits that one of ordinary skill in the art would construe "transmission media" to the "hardware/software" that would be used to transmit data over a network. However, Examiner contends that one of ordinary skill in the art would make a clear distinction between the media through which data is transferred over a network and the hardware/software used to transfer

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data over media. Further, even if one would interpret "transmission media" to comprise hardware/software that would transmit data, the fact that the hardware/software would simply transmit the data would still render the claim intangible because the data is transient. Applicant should amend the specification to remove mention of transmission to overcome this rejection.

39. As per the 35 U.S.C. 102 rejections of **Claims 1, 15 and 21**, Applicant contends that BEA Systems fails to disclose the method being performed during EJB passivation and reactivation. However, the method described by the claim deals only with reactivation of EJBs. Since the mention of passivating EJBs is made only in the preamble, with no discussion of it in the body of the claim, no patentable weight is given to mention of passivating EJBs.

40. Applicant further contends that no mention is made of performing the reactivation in response to traversing a one-to-many relationship. However, The chart spanning pages 11 and 12 of BEA Systems and para. 3 on page 12 clearly show the registering of EJBs in the cache, which serves as a collection registry, results in response to traversing the one-to-many relationships between the beans.

41. Applicant further contends that BEA Systems does not show maintaining association integrity among EJBs. However, one of ordinary skill in the art would reasonably interpret the caching behavior described above to serve as a means of assuring that EJBs necessary for the operation of the disclosed system are loaded into the cache together and kept there until such time as they are no longer needed.

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42. For the reasons cited above, the Examiner maintains the rejections of **Claims 1, 15, and 21**.

43. As per the 35 U.S.C. 102 rejection of **Claim 9**, the Examiner maintains the rejection of this claim based on the reasoning provided for **Claims 1, 15, and 21** above.

44. As per the 35 U.S.C. 102 rejections of **Claims 2 and 16**, contends that the cited passage does not teach the recited claim limitation. However, **Claims 2 and 16** recite the use of "a collection registry" and not necessarily the same collection registry as specified in **Claim 1**. The Examiner contends that the term "collection registry" would be interpreted by one of ordinary skill in the art to include any storage used to store a collection of EJBs, including the disk storage listed to meet the claim limitation of **Claims 2 and 16**. For this reason, the Examiner maintains the rejections of **Claims 2 and 16**.

45. As per the 35 U.S.C. 102 rejections of **Claims 3 and 17**, Applicant contends that the passage cited does not show loading EJBs from a collection registry after a source EJB is reactivated in response to the relationship between the source EJB and the others stored in the registry. However, as stated above for the **Claims 2 and 16**, the Examiner contends that the disk storage constitutes a collection registry. Further, since the caching behavior cited on pages 11 and 12 of BEA Systems loads the EJBs into the cache based on the relationships between the EJBs, when a source EJB is reactivated,

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the caching behavior will for the accompanying EJBs to be loaded from the disk storage collection registry to the cache collection registry. For this reason, the Examiner maintains the rejections of **Claims 3 and 17**.

46. As per the 35 U.S.C. 102 rejections of **Claim 10**, Applicant states that BEA Systems does not disclose the passivation of an entire collection of EJBs when the source EJB is passivated. However, on page 4 of BEA Systems, it is stated that the beans will be passivated when there is pressure on the system to do so. Since, once the source EJB is passivated the associated EJBs are no longer accessible, the system inherently passivates the inaccessible EJBs while under pressure to passivate EJBs. For this reason, the Examiner maintains the rejection **Claim 10**.

47. As per **Claims 4, 11, 12, 18, and 22**, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

48. As per the 35 U.S.C. 103 rejections of **Claims 5-8, 14, 15, 19 and 20**, Applicant contends that none of the limitations of these claims were specified. However, all necessary references to pertinent passages in the cited references were made within the Office Action. It appears that Applicant's intended was to contend that the Examiner failed to meet the specific limitation of a "link factory", the stated purpose of which is to maintain the relationships between the EJBs. As stated by Sun, however, the

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developer of the EJBs are required to implement such code in the EJBs. Therefore, it would have been obvious for one of ordinary skill in the art to implement code with the same functionality as the disclosed "link factory" because the specification for EJBs as stated by Sun mandates that the developer do so. For this reason, the Examiner maintains the rejections of **Claims 5-8, 14, 15, 19, and 20**.

Conclusion

49. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

50. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

51. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Pantoliano Jr whose telephone number is (571)


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270-1049. The examiner can normally be reached on Monday-Thursday, 8am - 4 pm EST.

52. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571)272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

53. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RP
11/27/2006


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